WE CLAIM:

1. A DNA vaccine effective for eliciting an immune response against proliferating endothelial cells comprising a DNA construct operably encoding a VEGF receptor protein in a pharmaceutically acceptable carrier.

2. The DNA vaccine of claim 1 wherein the VEGF receptor protein is a VEGF-2 receptor protein.

3. The DNA vaccine of claim 1 wherein the VEGF receptor protein is selected from the group consisting of VEGFR-2 (KDR; SEQ ID NO: 2), VEGFR-1 (Flt-1; SEQ ID NO: 4), Flk-1 (SEQ ID NO: 6), and a functional equivalent thereof that shares at least about 80% homology therewith.

4. The DNA vaccine of claim 1 wherein the DNA construct is a naked DNA construct.

5. The DNA vaccine of claim 1 wherein the DNA construct is operably incorporated in a plasmid vector.

6. The DNA vaccine of claim 1 wherein the DNA construct is operably incorporated in an attenuated bacterial vector.

7. The DNA vaccine of claim 6 wherein the attenuated bacterial vector is selected from the group consisting of attenuated *Salmonella typhimurium*, *Salmonella typhi*, *Shigella*, *Bacillus*, *Lactobacillus*, *BCG*, *Escherichia coli*, *Vibrio cholerae*, and *Campylobacter*.

8. The DNA vaccine of claim 6 wherein the attenuated bacterial vector is an attenuated *Salmonella typhimurium*.

9. The DNA vaccine of claim 1 wherein the DNA construct is a substantially purified DNA having a polynucleotide sequence selected from the group consisting of SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, and a functional homolog thereof that shares at least about 80% homology therewith.

10. The DNA vaccine of claim 9 wherein the DNA construct is operably incorporated in an attenuated *Salmonella typhimurium* vector.

11. A method of inhibiting endothelial cell proliferation in a mammal comprising the step of administering to the mammal an effective immunological response eliciting amount of a DNA vaccine comprising a DNA

construct operably encoding a VEGF receptor protein and a pharmaceutically acceptable carrier therefor, whereby said mammal exhibits an immune response elicited by vaccine and specific to proliferating endothelial cells.

12. The method of claim 11 wherein the mammal is a human.

13. The method of claim 11 wherein the VEGF receptor protein is selected from the group consisting of VEGFR-2 (KDR; SEQ ID NO: 2), VEGFR-1 (Flt-1; SEQ ID NO: 4), Flk-1 (SEQ ID NO: 6), and a functional homolog thereof that shares at least about 80% homology therewith.

14. The method of claim 11 wherein the DNA construct is operably incorporated in an attenuated bacterial vector.

15. The method of claim 14 wherein the attenuated bacterial vector is selected from attenuated *Salmonella typhimurium*, *Salmonella typhi*, *Shigella, Bacillus*, *Lactobacillus*, *BCG*, *Escherichia coli*, *Vibrio cholerae*, and *Campylobacter*.

16. The method of claim 15 wherein the attenuated bacterial vector is an attenuated *Salmonella typhimurium*.

17. The method of claim 11 wherein the vaccine is administered orally.

18. A method of inhibiting angiogenesis in a mammal comprising administering to said mammal an immunologically effective amount of a DNA vaccine comprising a DNA construct operably encoding a VEGF receptor protein and a pharmaceutically acceptable carrier therefor, whereby said mammal exhibits an immune response elicited by vaccine and specific to proliferating endothelial cells, resulting in an inhibition of blood vessel formation..

19. The method of claim 18 wherein the mammal is a human.

20. The method of claim 18 wherein the VEGF receptor protein is selected from the group consisting of VEGFR-2 (KDR; SEQ ID NO: 2), VEGFR-1 (Flt-1; SEQ ID NO: 4), Flk-1 (SEQ ID NO: 6), and a functional homolog thereof that shares at least about 80% homology therewith.

21. The method of claim 18 wherein the DNA construct is operably incorporated in an attenuated bacterial vector.

22. The method of claim 21 wherein the attenuated bacterial vector is selected from attenuated *Salmonella typhimurium*, *Salmonella typhi*, *Shigella, Bacillus*, *Lactobacillus*, *BCG*, *Escherichia coli*, *Vibrio cholerae*, and *Campylobacter*.

23. The method of claim 21 wherein the attenuated bacterial vector is an attenuated *Salmonella typhimurium*.

24. The method of claim 18 wherein the vaccine is administered orally.

25. A method of inhibiting tumor growth in a mammal comprising administering to said mammal an immunologically effective amount of a DNA vaccine comprising a DNA construct operably encoding a VEGF receptor protein and a pharmaceutically acceptable carrier therefor, whereby said mammal exhibits an immune response elicited by vaccine and specific to proliferating endothelial cells, resulting in the arresting of tumor growth, reduction in tumor size, or inhibition of tumor dissemination.

26. The method of claim 25 wherein the mammal is a human.

27. The method of claim 25 wherein the VEGF receptor protein is selected from the group consisting of VEGFR-2 (KDR; SEQ ID NO: 2), VEGFR-1 (Flt-1; SEQ ID NO: 4), Flk-1 (SEQ ID NO: 6), and a functional homolog thereof that shares at least about 80% homology therewith.

28. The method of claim 25 wherein the DNA construct is operably incorporated in an attenuated bacterial vector.

29. The method of claim 28 wherein the attenuated bacterial vector is selected from attenuated *Salmonella typhimurium*, *Salmonella typhi*, *Shigella, Bacillus*, *Lactobacillus*, *BCG*, *Escherichia coli*, *Vibrio cholerae*, and *Campylobacter*.

30. The method of claim 28 wherein the attenuated bacterial vector is an attenuated *Salmonella typhimurium*.

31. The method of claim 25 wherein the vaccine is administered orally.

32. An article of manufacture comprising a vaccine of claim 1 packaged in a hermetically sealed, sterile container, the container having a label

affixed thereto, the label bearing printed material identifying the vaccine and providing information useful to an individual administering said vaccine to a patient.